any alarming flow at the first subsequent period and it has been unnecessary to take any precaution after the second series.

The following two cases are reported in detail as they typically represent the entire series:

CASE NO. 2. UTERINE HEMORRHAGE FROM A SMALL FIBROID

Mrs. C. F. Age 41. Referred by Dr. Francis Meade, November 26th, 1917. The patient complained of excessive flooding, of periods lasting from ten to twenty-one days, and this was of two years' duration. Pelvic examination showed a small intramural fibroid, not palpable above the symphysis, about the size of a lemon. Otherwise the pelvic organs were negative. In addition the patient gave a history of pulmonary tuberculosis and duodenal ulcer, both of which were confirmed by X-ray examination. The patient was referred for the establishment of the menopause. She was given three X-ray series of twelve treatments each, on November 26th, December 12th, 1917, and January 10th, 1918, respectively. The first period was still excessive but not as free as formerly, the second period was normal and she has not menstruated since. After her X-ray treatments she was sent to the mountains for the tuberculosis. Her physician reports, on May 7th, 1920, that she had no pelvic symptoms, that her tuberculosis is now latent, and that she had had no atypical bleeding.

CASE NO. 9. HEMORRHAGE FROM A GROSSLY NORMAL UTERUS

Mrs. A. L. Age 40. Referred by Dr. B. J. O'Neill, September 29th, 1918. This patient was operated upon in 1914 and a chronically inflammed appendix, tube and ovary were removed. The uterus was found to be tied down by firm adhesions, the other tube and ovary were left in situ. In 1916 a cholecystostomy was done to relieve a chronic cholecystitis. Following her surgery in 1914 the menstruation was normal until the past summer when it became excessive. There had been six weeks of constant flooding in spite of repeated packing and curettage. Pelvic examination showed a uterus normal in size and contour, firmly adherent but otherwise negative. Microscopic examination of uterine scrapings was negative. This patient was given three X-ray series. The hemorrhage stopped immediately following the first series. Her subsequent period started normally but became excessive after a long motor trip. The second period was normal and was the last. On February 1st, 1920, this patient was seen still suffering from upper abdominal adhesions but she has been entirely free from hemorrhage and pelvic symptoms.

I desire to protest strongly against the indiscriminate use of X-ray and radium. Uterine hemorrhage demands an early and searching examination and the greatest accuracy in diagnosis. If the physician who is handling these cases can not reach an early decision he should have the immediate co-operation of an expert gynecologist. It is only by so doing that we can keep down the mortality from carcinoma of the uterus and prevent the development of serious surgical complications. On the other hand, in the conditions we have discussed, X-ray and radium are specific in the treatment of uterine hemorrhage and this should be borne in mind in the treating of those cases where surgery is not urgently indicated.

HEAT THE MOST PRACTICAL AND PROMISING TREATMENT IN UTERINE CARCINOMA. *

By J. F. PERCY, M. D., San Diego, California.

Today we are limited in the discussion of the cancer question merely to the terms of its treatment. Practically nothing regarding any other phase of the disease is known, certainly not to a degree to be of any value in its management from the standpoint of therapy. The basis of all our treatment of cancer is still empiric, as it always has been, and yet it can truthfully be said that progress has been made, except possibly in the inoperable types as far as it relates to the use of the cold steel knife.

There are five methods today for the treatment of cancer that have a rightful claim to the consideration of medical men. They are the knife, X-ray, radium, electro-coagulation (diathermy), and heat. All five of these in the hands of those most familiar with their correct and rational use have undoubted cures to their credit, and I say this with full appreciation of the significance of the word "cure" as it is related to the question of scientific accuracy especially in the treatment of cancer.

It is not necessary to extensively discuss the knife in the treatment of this disease at this time because the arguments for and against its use are to well known to need recapitulation here. There is no question of its great value could we always be certain that in its use it could be made to cut wide of the disease and in no instance invade the regions where the cancer cell is developing. Because of this uncertainty as to whether the knife will be the means of disseminating the disease into new areas we witness the effort being made everywhere by surgeons to find a more reliable substitute for it in the treatment of cancer. I expect to live to see the day when surgeons will universally condemn its use because of this undeniable and uncontrollable danger. There is another phase of the use of the knife that is usually ignored when it is advocated in the treatment of cancer. I refer to the classification of the type of case that presents itself for treatment. Is it operable or inoperable, and what are the signs and symptoms governing the decision to put it in one or the other of these classes? My own work has been almost entirely with the inoperable type of case, and yet my technic and its results are frequently discussed with the operable form of the disease.

The X-ray in superficial growths especially of the skin is of undoubted value. It does cure by destroying them. It is in the deep-seated growths that the consensus of opinion as to the real value of this agent have not yet fully crystallized. One most interesting and valuable fact has come out of its intensive use, however; the really tremendous inhibiting power of the skin in preventing the penetration of the rays. This seems to be

* Read in the section on Gynecology and Obstetrics, Medical Society of the State of California, Santa Barbara, May, 1920.

one of the chief hindrances at present to its most efficient use.

The storm center for the treatment of cancer seems to hang over the question of the use of radium. It has moved into the place formerly held by the X-ray. And, like all agents, with tremendous potential energy for good or evil in the treatment of disease has not yet reached the place where its possibilities for good are fully understood or its limitations well defined. That radium, like the X-ray, has a definite and valuable place in the treatment of certain forms of malignancy there seems to be no question. Some of the best trained and most experienced medical minds, both here and abroad, are giving their best efforts with enthusiasm to the clearing away of these problems, and the results of their work even as far as it has gone can neither be questioned or denied.

A recent writer has reported sixty per cent. of his supposedly inoperable uterine cancer cases alive and well three, four and five years after their treatment with radium. At present he is engaged on the very practical problem of trying to determine why his thirty or forty per cent. treated by the same agent did not recover also. He mentions an experience which he observed in the use of radium in the treatment of uterine cancer; that in some cases where it seemed to have "failed completely and the treatment was abandoned as hopeless, the woman returned months later immeasurably improved or even clinically cured." But this writer does not seem to know that this experience with radium which he explains on the basis of some "mysterious force" at work is not an uncommon one with any or all of the methods that have ever had any standing in the local or general treatment of cancer. He also speaks of a probable "cumulative action from the radium" as a possible explanation of the unexpected good results. The foregoing is a very brief statement of one side of the picture regarding the value of radium in the treatment of cancer, the favorable side.

The other is made by those who have used it more or less thoroughly and as they believe intelligently, and have abandoned its use in any form of cancer as too dangerous or uncertain in its effects and therefore lacking in any results that were worth while. In one of the largest Eastern clinics with an almost exclusive cancer service, which it was my privilege to visit during the past winter, it was openly claimed in one of their public clinics that they had practically excluded radium from the institution in the treatment of any form of cancer. The statement was distinctly made, first, that they had a large quantity of radium, and, second, that its use in the hospital was directed by a physician "who probably knew more about the correct use of radium in the treatment of cancer than any man living either in this country or in Europe." They emphasized not only their lack of results as far as benefits to their patients were concerned but they especially referred to the distressing sequela which so often gave rise to a form of permanent suffering unequaled by any other method so far developed for the destruction of a malignant mass. This is the other side of the picture, the unfavorable one.

I believe that both of these pictures are overdrawn, and the fact that they are will give point, I trust, to the plea that I shall make at the end of this paper for a more comprehensive study of all the methods that give any promise for the cure of this disease. As I proceed I shall try and discuss as judicially as I can my personal views based on my experience as to the relative value of all five of the methods of the treatment of cancer under consideration at this time.

The only effective substitute for the cold knife in cancer is the hot one, and when the technic of its correct use by surgeons is learned, there can be no question as to its final place in the treatment of all forms of malignancy. The fundamental thing in the use of heat which has not been grasped in its entirety by those who wish to make use of it in a successful way is that the results depend on the dissemination of heat until the tissues known to be involved in the malignancy and those also only suspected to be involved are fully infused with the heat. This means that it is not the number of minutes that is given to the dissemination of the heat into the tissues, but the one of whether it has really made the tissues so hot in the course of the treatment that the cancer cells can no longer live there. In other words, surgeons in speaking of this technic refer to the number of minutes that they employ the heat, forgetting that they cannot correctly speak of the treatment in terms of minutes, for time is not the important factor in its most effective use. The essential, the necessary and the important element, I repeat, is a degree of heat that the laboratory and clinical experience has shown will kill the cancer cell in the tissues, regardless of whether it takes a long or short time to get it there, and in this regard each case is a law unto itself.

The statistics of the late Dr. John Byrne following his use of the high heat in cervical carcinoma are a sufficient defense, if any is needed, against any question that may be raised as to the value of the use of the cautery knife in carcinoma. This surgeon reported 60% of his cases alive and well five years after the high amputation of the cancerous cervix by the actual cautery followed by the infiltration of the unremoved tissues with heat until they were of the consistency of "horn." This percentage of cures was obtained not on a few cases for the material which came to him was "enormous." His results, published in 1889 in a remarkable monograph entitled "A Digest of Twenty Years' Experience in the Treatment of Uterine Cancer," have never been equaled, and we must remember also that he had no operative mortality following his technic in this operation.

One of the serious difficulties following the use of the X-ray, radium or electro-coagulation in the treatment of malignancy is the fact that in the event of their failure to relieve or cure usually nothing further in the way of surgery or the heat technic can be used. The reason for this is that

the results from either of these agents as far as the normal or abnormal cell is concerned cannot be regulated so as to produce their maximum effects only on the malignancy. The practical consequences of their use too often is to destroy not only the abnormal cell but the normal as well, and too, far beyond the area of their immediate application. It is for this reason that the operating surgeon who has one of these cases referred to him for surgical treatment after the use of these agents or methods is loath to attempt it for fear, mainly, of a poor repair following his operation. In addition to this his difficulties are frequently increased because the tissues invaded by his knife bleed in a most persistent way. Another more recently recognized danger following the use of radium and the X-ray especially are the changes produced in the blood of the patient. These alterations in the blood produce in an appreciable percentage of cases an early, dangerous and even fatal result. Electro-coagulation is a little less formidable in this regard than are the other two. Another fact should be referred to in this connection also. Radium and the X-ray frequently leave, as far as the pelvis is concerned, a rather formidable type of adhesions and scar tissue. These are usually found in the form of bands and masses that also prevent subsequent successful operative procedures with either the hot or cold knife. I am speaking now from a rather large surgical experience with this class of cases. Many of them developed their adhesions in my own clinic where for some years I followed the so-called deep penetration method by the X-ray, subsequent to the use of the heat technic. In addition to this many cases were sent to me through the courtesy of colleagues, for the heat treatment, that had previously had exposures, not only to the X-ray but also with radium and diathermy. I have indeed had cases under my care who before I saw them had been treated consecutively by all three of these methods. Where I felt warranted in opening the abdomen with the hope that I might accomplish something, at least in a palliative way, I found that where these agents had been used intensively that the surface appearance of the intestines, as they lay together in the lower abdomen, was apparently not altered. But when I tried to get into the pelvis it was impossible to do so because of the perfect adhesions between the gut coils. The intestines were glued together in a remarkably effective way and, too, without any macroscopic evidence of a previous inflammatory reaction. There was also a persistent and at times an alarming oozing wherever the tissues that had been acted upon by these powerful agents were disturbed by my fingers and scalpel. This was especially true of the abdominal incision.

The chief disadvantages of the heat treatment are two. First, in cervical carcinoma the development, in a small proportion of cases following the use of the heat, of a vesico-vaginal fistula. This is usually manifest within a week or ten days. Second, a secondary hemorrhage coming on about the fourteenth day after the treatment. It should be stated, however, that I have had none of these hemorrhages among my own cases, neither have I heard of any in the practice of other surgeons since making it the rule to tie both internal iliac and ovarian arteries. One of the surprises to the novice in the use of the heat in the pelvis is the remarkable post-operative freedom from pain and suffering. This leaves as the chief objection to the heat technic the injuries to the bladder. This can be dismissed in a few words. If cancer has already made changes in the base of the bladder it is merely abandonment of the woman to her fate not to infuse heat into it when it can be done so easily. I have had no trouble with my patients when fistulae develop, as they sometimes but not always do, because I always explain to them in my preliminary statement that I may make a hole in their bladder and that it is much better for them that I do it than for the cancer to be the cause of it. In addition to this I never minimize to the patients or to their family what a horribly disgusting and offending thing a patient with this condition is to everyone, especially to those who have to live in the same house, and that this remains true until the fistula is closed. I have found it to be the rule that the patient would rather have a hole in the bladder with no cancer than no hole and the cancer still there. They are always told that the fistula probably can be successfully closed if it does not do so spontaneously within six weeks or two months. In some cases I have had to convert the upper part of the vagina into the lower part of the bladder. These cases have a useful bladder, one of them now over fourteen years.

It can also be said of heat, when used in the treatment of cancer, that it destroys an immense number of malignant cells just from its minor or surface application. This is especially true in the cautery surgery of breast cancer, in the axilla, the mouth, the neck, along the ureters and iliacs, and in the parametrium, to mention no more. To get this result you do not have to get the high degrees of heat through introducing the heating head into the deeper structures; a surface application of a temperature sufficient to melt fat is all that is required, after the skin is opened or removed. In this way you can both treat and preserve important structures, including the nerves, blood vessels, the bladder, intestines and rectum.

In applying heat to these vitally important regions you are permitted some regulatory supervision over the dosage so that you can destroy cancer cells alone or you can carry it on to the degree sufficient to melt down a large and dense collection of these cells. But the most important thing of all (and I want to call your attention to it again) is the fact that when heat has been applied in a destructive way to cancer-bearing areas, the injury sustained by the normal structures is not sufficient to prevent a reasonably good repair. If the local disease is destroyed, by the heat, the filling-in process, or repair, which follows is often a remarkably good, as far as function is concerned, imitation of the normal structures.

I cannot let the opportunity, that your section has given me, Mr. Chairman, to present the claims of heat in the treatment of cancer, pass without a plea for the earnest consideration of another important phase of the cancer question. I refer to the fact that there is today no concerted scientific effort to study cancer from the standpoint alone of *treatment*. An immense amount of splendid effort is being expended to clear the question as to the origin of the disease, but the results so far have been greatly disproportionate to the time, money, equipment and brains given to unraveling the mystery. There is a constructive scientific community of interests for the study of the cause or causes of cancer but nothing has been done along the same lines to clear up the moot points in its treatment. We hear, and even know, of the benefits following the use of the knife, of radium, of electro-coagulation, of the X-ray and of heat, and as well of various other methods that have undoubted cures to their credit. But they are reports of individual workers or of institutions devoted only to their own conception of what is best in the treatment of this disease. We have standardized the use of quinine, of digitalis, of mercury, of morphine, of salvarsan and the various antitoxins, to mention no more. By the same token, we have for the successful treatment of cancer, at least in some of its manifestations, a sufficient number of agents and methods to fix our attention today on this very important aspect of the cancer question. Each advocate of a special treatment knows what he can do with it, and as well what he cannot do; but no individual or institution has or can under present conditions correlate all the knowledge of the successes and failures of all the workers and give it to us as a great gift.

The explanation is not far to seek. Each method recognized today as worthy of consideration in the treatment of cancer is either an individual or a group proposition. Each one of these individuals or groups at present are too much concerned with their own hopes based on their methods or technic to investigate in a constructive way the most important part of the valuable work in the treatment of cancer really accomplished by the other groups. If this could be done in the near future on a large number of cases it would soon result in a standardized treatment that would be recognized by both the profession and the public as the greatest step toward the clearing up of the cancer treatment question so far developed.

NASAL CATARRH

By C. A. Phelan, M. D., San Francisco.

Catarrh, from the latinized form of the Greek word, "catarrhus," is a generic term used to denote the sort of fluid flow discharging from a membranous surface. This may be a simple serous or sero-mucous, mucous, muco-purulent, or a sanious catarrh, and the ratio of seriousness is placed in the above order. A catarrh may be acute, subacute or chronic, with more or less fever.

As applied to the nasal region, catarrh is not a disease but only a symptom, and may be a manifestation of many and varied pathological states of the nasal chambers, or a local manifestation of a systemic condition, sometimes of the simplest and sometimes of the most serious.

Nasal catarrh is a subject of vast importance for it is often met with in practice since it is a common accompaniment of many general diseases. In Influenza nasal catarrh is always present, and it is undoubtedly by the nasal discharges that the bacillus is spread about and the contagion conveyed from person to person.

Always examine the patient's handkerchief because this is the pathological flag. In rhinorrhoea, the discharge is mostly serous, merely wetting the handkerchief, staining it but little, and not stiffening it at all. In chronic rhinitis, the flow is mostly a mucous fluid which adheres to the handkerchief and agglutinates its folds, but which does not discolor. In purulent rhinitis, the discharge is yellow-colored and sometimes offensive, discolored to a green or yellowish green, and it stains, starches and agglutinates the handkerchief. In atrophic rhinitis, masses of foul smelling crusts are often expelled from the nostrils. And if the patient waves before you a sanious colored handkerchief—beware! Think of the matadore waving his flag in the arena, and look for malignant disease.

The prevalence of nasal catarrh then demands that we should know all that we can about it. There is also another reason, and it is one that the practitioner must always be prepared to combat among the laity and take care not to help to spread about, and that is that nasal catarrh is incurable. It is one of the fallacies that has a strong firm hold on the laity and even, strange to say, on many learned medical men, that chronic nasal catarrh is an incurable malady and must be endured throughout the patient's lifetime. It is truly remarkable how many medical men believe this to be true and do not hesitate to tell the patient that he must never expect to be cured. Now, this can only be explained by ignorance of the nature of the cause of nasal catarrh.

It is quite true that many cases of this malady are very difficult to cure, and no ordinary or even extraordinary therapeutical means will do so, since many such intractible nasal catarrhs are due to pus polypi in the maxillary antrum and frontal sinus keeping up a continual drenching of the nasal passages with mucus, pus and blood. With many patients nothing that the practitioner can do will cure, the only remedy being a surgical one, after which it takes about six months to effect a cure. But I want to emphatically emphasize the fact that the disease can be eradicated.

In examining a case, go carefully into the history and see if the nasal catarrh dates back to repeated attacks of influenza, the catarrh incident to this malady often extending to the antrum or other nasal sinuses, so becoming chronic.

The method of examination is an important consideration in the investigation of the causes of nasal catarrh. First, note the shape of the nose, as those with long and high noses and consequently, narrow nasal cavities, are more likely to